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EXAMINER	
SPITTLE, MATTHEW D	

ART UNIT	PAPER NUMBER
2111	

DATE MAILED: 11/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/722,961	EDE, CLIFFORD	
	Examiner	Art Unit	
	Matthew D. Spittle	2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 11-26* is/are rejected.

7)☒ Claim(s) *8-10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6/20/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 12 recites an "identifier contact" which is not described within the specification of the applicant's invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 20, 21 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Duso et al.

With regard to claim 1, Duso et al. describe an interface connectable as a default host to a peripheral or as a default peripheral to a host, for serial data communication between host and peripheral during a session, and comprising:

Automated means for periodically checking a connection by periodically starting a session when connected as a default host (where a default host may be interpreted as a master controller server, and where "starting a session" may be interpreted as polling the peripheral; column 51, lines 25 – 39).

Automated means for periodically checking a connection by periodically requesting a session when connected as a default peripheral (where a default peripheral may be interpreted as a slave controller server, and where "requesting a session" may be interpreted as polling the host; column 51, lines 25 – 39; column 52, lines 5 – 8).

Duso et al. implicitly state a serial data communication, in the form of Ethernet communication, which is evidenced by a serial means of data transfer according to the IEEE Computer Society, page 45, paragraph 3.

With regard to claim 2, Duso et al. describe an interface as claimed in claim 1, wherein a session identifies the presence of a connected device (Duso et al. describe using a heartbeat signal to determine if there is a failure in the master or slave.

Examiner identifies a failure as comprising the master or slave being or becoming disconnected. Column 51, lines 25 – 39; column 52, lines 5 – 8).

With regard to claim 20, Duso et al. describe a method of checking a serial data connection between a device connected as host and a device connected as a peripheral, comprising:

Periodically starting a session at the device connected as host (where a host may be interpreted as a master controller server, and where "starting a session" may be interpreted as polling the peripheral; column 51, lines 25 – 39).

With regard to claim 21, Duso et al. describe a method of checking a serial data connection between a device connected as host and a device connected as a peripheral, comprising:

Periodically requesting the start of a session at the device connected as a peripheral (where a peripheral may be interpreted as a slave controller server, and where "requesting a session" may be interpreted as polling the host; column 51, lines 25 – 39; column 52, lines 5 – 8).

With regard to claim 22, Duso et al. teach a master controller server and a slave controller server; either of which can assume master or slave status. Examiner identifies both of these servers as "dual-mode" devices (column 51, lines 30 – 39).

Therefore, Duso et al. teach a method of checking a serial data connection between a dual mode device and another device comprising:

Periodically starting a session at the device connected as host when the dual-mode device is connected as a default host (where the default host may be interpreted as a master controller server; column 51, lines 25 – 39);

Periodically requesting the start of a session at the device connected as a peripheral when the dual-mode device is connected as a default peripheral (where the default peripheral may be interpreted as a slave controller server; column 51, lines 25 – 39).

* * *

Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Tomaszewski.

With regard to claim 1, Tomaszewski describes an interface connectable as a default host to a peripheral or as a default peripheral to a host, for serial data communication between host and peripheral during a session, and comprising:

Automated means for periodically checking a connection by periodically starting a session when connected as a default host (where a serial data communication may be interpreted as a Universal Serial bus and where "starting a session" may be interpreted as polling the hub; Tomaszewski implicitly state this function as evidenced by Compaq et al. which describe the host querying the hub to determine the status of USB devices on each of its ports (page 20, section 4.6.1). Additionally, Tomaszewski implicitly describes how often this occurs as evidenced by Peters et al. Peters et al.

describe in U.S. patent 6,898,652 that in a conventional USB system a USB host device periodically polls each attached hub device to determine the state of the hub's active downstream ports (column 3, lines 50 – 53). Therefore, this function is inherently present in the invention of Tomaszewski since it discloses a USB bus.

Automated means for periodically checking a connection by periodically requesting a session when connected as a default peripheral (where a default peripheral may be interpreted as a digital camera, and where "requesting a session" may be interpreted as polling the VBUS bit; paragraphs 30, 31).

With regard to claim 5, Tomaszewski fails to explicitly describe the session identifying the capabilities of a connected device. Compaq et al. describe in the USB 2.0 specification that the capabilities of a device are identified during the enumeration step when the host requests the configuration information (pages 243 – 245, sections 9.1.2, 9.2.3). Therefore, this feature is inherently present in the invention of Tomaszewski, since he clearly identifies USB as the communication bus used.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomaszewski in view of Burke et al.

With regard to claim 3, Tomaszewski teaches a power signal contact (Figure 2, item 200), at least one data signal contact (Figure 2, items 210, 212), but fails to teach when connected as the default host, the means for periodically checking a connection is operable to periodically apply a voltage to the power signal contact and receive a response via the data signal contact.

Burke et al. teach a power signal contact, at least one data signal contact, wherein, when connected as a default host, the means for periodically checking a connection is operable to periodically apply a voltage to the power signal contact and receive a response via the data signal contact (where a default host may be interpreted as a wake-up controller, a power signal contact may be interpreted as Vbus, and a data signal contact may be interpreted as a secondary serial interface; Figure 2, 3; column 4, lines 33 – 48, claim 4).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the invention of Tomaszewski to incorporate the wake-up controller of Burke et al. in order to allow for power management of USB peripheral devices while the host computer system is in a suspend state. This would have been obvious since it is well known in the art that reducing the power consumption of electronic devices reduces the costs of operating those devices.

* * *

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomaszewski in view of Burke et al., and further in view of Chandler et al.

With regard to claim 4, Tomaszewski and Burke et al. fail to explicitly teach when connected as a default peripheral, the means for periodically checking a connection is operable to periodically request a session via the power signal contact and the data signal contact and receive a response via the power signal contact.

Chandler et al. teach in the USB OTG Specification Rev 1.0a that a peripheral device may pulse the Vbus signal and the data signal(s) in order to request a session according to the Session Request Protocol. The host device replies to the request by activating the Vbus signal. Examiner interprets this as being equivalent to a reply signal via the power signal contact (pages 37 – 40, section 5.3).

It would have been obvious to one of ordinary skill in this art to include the features of USB On-The-Go in the invention of Tomaszewski and Burke et al. in order to provide a USB peripheral device with a means of requesting a session from a host

device. This would have been obvious since Chandler et al. teach a plurality of other improvements that USB On-The-Go adds to the conventional USB 2.0 specification, including support for portable devices with small interface cables, dual-role devices, Session Request protocol, Host Negotiation protocol, and features which allow two or more USB devices to communicate directly.

* * *

Claims 6, 7, 11, 13, 14, 15, 16, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burke et al. in view of Chandler et al.

With regard to claim 6, Burke et al. teach an interface, for serial data communication between a host and a peripheral, connectable as a default host or a default peripheral and comprising:

A power signal contact (Figure 2, Vbus)

At least one data signal contact (Figure 2, D+, D-)

Transmission means for repeatedly sending a poll signal via the power signal contact (column 4, lines 33 – 48);

Receiving a reply signal via the data signal contact if the device is connected as a default host (where a default host may be interpreted as a wake-up controller, and a data signal contact may be interpreted as a secondary serial interface; Figure 2, 3; column 4, lines 33 – 48, claim 4).

Burke et al. fail to teach reception means for receiving a reply signal via the power signal contact, if the device is connected as a default peripheral and the data signal contact if the device is connected as a default host.

Chandler et al. teach that a peripheral device may pulse the Vbus signal and the data signal(s) in order to request a session according to the Session Request Protocol. The host device replies to the request by activating the Vbus signal. Examiner interprets this as being equivalent to a reply signal via the power signal contact (pages 37 – 40, section 5.3).

It would have been obvious to one of ordinary skill in this art to include the features of USB On-The-Go in the invention of Burke et al. in order to provide a USB peripheral device with a means of requesting a session from a host device. This would have been obvious since Chandler et al. teach a plurality of other improvements that USB On-The-Go adds to increase the flexibility of the conventional USB 2.0 specification, including support for portable devices with small interface cables, dual-role devices, Session Request protocol, Host Negotiation protocol, and features which allow two or more USB devices to communicate directly.

With regard to claim 7, Burke et al. and Chandler et al. teach the poll signals being sent periodically, and implicitly describe them as a train of voltage pulses. Burke et al. and Chandler et al. teach using the Universal Serial Bus, which is understood to be a means of digital data transmission where voltage pulses are used to differentiate between a logic 0 and logic 1. For this reason, the system of Burke et al. and Chandler

et al. inherently teach the limitation where the poll signals are sent as a train of voltage pulses.

With regard to claim 11, Chandler et al. teach the additional limitation wherein the transmission means is operable to repeatedly send both a first poll signal via the power signal contact and a second poll signal via the data signal contact, if the device is connected as a default peripheral (as taught by the Session Request Protocol; pages 37 – 40, section 5.3).

With regard to claim 13, Burke et al. and Chandler et al. teach the additional limitation wherein the reply message identifies the presence of a connected device. Burke et al. teach the host (wake-up controller) polling the peripheral device (column 4, lines 33 – 48). If a stimulus is received by the peripheral, the computer system is woken up. One of ordinary skill in this art would have found it obvious that a stimulus received by a peripheral identifies the presence of that peripheral.

Chandler et al. teach the peripheral polling the host device. In this case, the peripheral polls the host device and awaits 5 seconds for a response. One of ordinary skill in this art would have found it obvious that a response received by the host identifies the presence of the host (pages 37 – 40, section 5.3).

With regard to claim 14, Burke et al. and Chandler et al. implicitly teach an interface as claimed in claim 6 wherein an session is started that identifies the

capabilities of the connected device. Compaq et al. describe in the USB 2.0 specification that the capabilities of a device are identified during the enumeration step when the host requests the configuration information (pages 243 – 245, sections 9.1.2, 9.2.3). Therefore, this feature is inherently present in the invention of Burke et al. and Chandler et al. since they clearly identify USB as the communication bus used.

With regard to claim 15, Burke et al. teach the additional limitation of a host interface for serial data communication between a host and a connected peripheral during a session:

A power signal contact for supplying power to the connected peripheral (Figure 2, Vbus);

At least one data signal contact for serially communicating data between the host and connected peripheral (Figure 2, D+, D-);

Means for periodically checking the connection to the peripheral comprising:

Transmission means for repeatedly sending a poll signal via the power signal contact (where a transmission means is provided by the wake-up controller; Figure 2, item 34; column 4, lines 33 – 48).

Reception means for receiving a reply signal via the data signal contact (where a reception means is provided by the secondary serial interface; Figure 3, item 41; column 4, lines 33 – 48).

With regard to claim 16, Burke et al. teach the additional limitation of a host interface arranged to periodically start a session on its own initiative (column 4, lines 33 – 48), but fail to teach starting a session in response to periodic requests from the connected peripheral.

Chandler et al. teach the host starting a session in response to periodic requests from the connected peripheral (as taught in the Session Request Protocol; pages 37 – 40, section 5.3).

With regard to claim 24, Burke et al. teach an interface, for serial data communication between a host and a peripheral, connectable as a default host or a default peripheral and comprising:

A power signal contact (Figure 2, Vbus)

At least one data signal contact (Figure 2, D+, D-)

Electronic circuitry for repeatedly sending a poll signal via the power signal contact (column 4, lines 33 – 48);

Receiving a reply signal via the data signal contact if the device is connected as a default host (where a default host may be interpreted as a wake-up controller, and a data signal contact may be interpreted as a secondary serial interface; Figure 2, 3; column 4, lines 33 – 48, claim 4).

Burke et al. fail to teach electronic circuitry for receiving a reply signal via the power signal contact, if the device is connected as a default peripheral and the data signal contact if the device is connected as a default host.

Chandler et al. teach that a peripheral device may pulse the Vbus signal and the data signal(s) in order to request a session according to the Session Request Protocol. The host device replies to the request by activating the Vbus signal. Examiner interprets this as being equivalent to a reply signal via the power signal contact (pages 37 – 40, section 5.3).

With regard to claim 25, Burke et al. teach the additional limitation of a host interface for serial data communication between a host and a connected peripheral during a session:

A power signal contact for supplying power to the connected peripheral (Figure 2, Vbus);

At least one data signal contact for serially communicating data between the host and connected peripheral (Figure 2, D+, D-);

Electronic circuitry for periodically checking the connection to the peripheral comprising:

Electronic circuitry arranged to repeatedly sending a poll signal via the power signal contact (where a transmission means is provided by the wake-up controller; Figure 2, item 34; column 4, lines 33 – 48) and arranged to receive a reply signal via the data signal contact (where a reception means is provided by the secondary serial interface; Figure 3, item 41; column 4, lines 33 – 48).

* * *

Claims 17, 18, 19, 23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomaszewski in view of Chandler et al.

With regard to claim 17, Tomaszewski teaches a peripheral interface for serial data communication between a connected host and a peripheral during a session:

A power signal contact for receiving power from the connected host (Figure 2, item 200);

At least one data signal contact for serially communicating data between the connected host and peripheral (Figure 2, items 210, 212);

Tomaszewski teaches a means for periodically checking the connection to the host (paragraphs 30, 31; where the camera's VBUS signal checker polls the status of the host connection) but fails to teach repeatedly sending a first poll signal via the power signal contact and for repeatedly sending a second poll signal via the data signal contact, along with reception means for receiving a reply signal via the power signal contact.

Chandler et al. teach a transmission means for repeatedly sending a first poll signal via the power signal contact and for repeatedly sending a second poll signal via the data signal contact (as taught by the Session Request Protocol; pages 37 – 40, section 5.3).

Additionally, Chandler et al. teach reception means for receiving a reply signal via the power signal contact. Chandler et al. teach that a peripheral device may pulse the Vbus signal and the data signal(s) in order to request a session according to the Session Request Protocol. The host device replies to the request by activating the

Vbus signal. Examiner interprets this as being equivalent to a reply signal via the power signal contact (pages 37 – 40, section 5.3).

It would have been obvious to one of ordinary skill in this art to include the features of USB On-The-Go in the invention of Tomaszewski in order to provide a USB peripheral device with a means of requesting a session from a host device. This would have been obvious since Chandler et al. teach a plurality of other improvements that USB On-The-Go adds to increase the flexibility of the conventional USB 2.0 specification, including support for portable devices with small interface cables, dual-role devices, Session Request protocol, Host Negotiation protocol, and features which allow two or more USB devices to communicate directly.

With regard to claim 18, Tomaszewski teaches the additional limitation where the peripheral interface is arranged to periodically request a session (paragraphs 30, 31; where the camera's VBUS signal checker polls the host's connectivity).

With regard to claim 19, Chandler et al. teach the additional limitation wherein each request has a duration less than 100ms (page 39, section 5.3.8; where a B-device may be interpreted as a peripheral).

With regard to claim 23, Tomaszewski teaches an interface connectable as a default host to a peripheral or as a default peripheral to a host, for serial data communication between host and peripheral during a session, and comprising:

A transceiver arranged to periodically requesting a session when connected as a default peripheral (paragraphs 30, 31; where the camera's VBUS signal checker polls the host's connectivity). Tomaszewski fails to explicitly teach a transceiver, however Compaq et al. teach the use of a transceiver in USB applications throughout Chapter 7 as required in order to a provide a necessary means of protecting a USB device from damage due to a short circuit. Therefore, a transceiver is inherent in the invention of Tomaszewski since Tomaszewski teaches a USB bus.

Additionally, Tomaszewski fails to explicitly teach periodical checking a connection by periodically starting a session when connected as a default host.

Compaq et al. teach that the host queries the hub to determine the status of USB devices on each of its ports, but fail to describe how often this occurs (page 20, section 4.6.1). Peters et al. describe in U.S. patent 6,898,652 that in a conventional USB system a USB host device periodically polls each attached hub device to determine the state of the hub's active downstream ports (column 3, lines 50 – 53). Therefore, this function is inherently present in the invention of Tomaszewski since it describes a USB bus);

With regard to claim 26, Tomaszewski teaches a peripheral interface for serial data communication between a connected host and a peripheral during a session:

A power signal contact for receiving power from the connected host (Figure 2, item 200);

At least one data signal contact for serially communicating data between the connected host and peripheral (Figure 2, items 210, 212);

Tomaszewski teaches a electronic circuitry for periodically checking the connection to the host (paragraphs 30, 31; where the camera's VBUS signal checker polls the status of the host connection) but fails to teach repeatedly sending a first poll signal via the power signal contact and for repeatedly sending a second poll signal via the data signal contact, along with reception means for receiving a reply signal via the power signal contact.

Chandler et al. teach electronic circuitry arranged to repeatedly send a first poll signal via the power signal contact and to repeatedly send a second poll signal via the data signal contact (as taught by the Session Request Protocol; pages 37 – 40, section 5.3).

Additionally, Chandler et al. teach electronic circuitry arranged to receive a reply signal via the power signal contact. Chandler et al. teach that a peripheral device may pulse the Vbus signal and the data signal(s) in order to request a session according to the Session Request Protocol. The host device replies to the request by activating the Vbus signal. Examiner interprets this as being equivalent to a reply signal via the power signal contact (pages 37 – 40, section 5.3).

Allowable Subject Matter

Claims 8, 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Spittle whose telephone number is (571) 272-2467. The examiner can normally be reached on Monday - Friday, 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on 571-272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MDS

REHANA PERVEEN
SUPERVISORY PATENT EXAMINER
10/31/05